



HSF ZTW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/637,608
Applicant : FLYNN, ET AL.
Filed : AUGUST 11, 2003
Title : HYDROGEN ODORANTS AND ODORANT SELECTION METHOD

Art Unit : 1754
Examiner : LANGEL, WAYNE A.

Atty Docket No. : ENER-0001-UT1

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

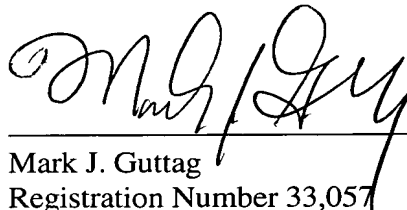
Sir:

The below-identified communication(s) is (are) submitted in the above-captioned application or proceeding:

- ☒ Reply Brief
- ☒ Fee Transmittal and Authorization to Charge Deposit Account

- ☒ The Commissioner is hereby authorized to charge payment of any fees associated with this communication, including fees under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment to **Deposit Account Number 10-0233-ENER-0001-UT1.**

Respectfully submitted,



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September 7, 2006



Patent Fee Transmittal for FY 2006

☒ Applicant(s) Claims Small Entity Status 37 C.F.R. 1.27

TOTAL AMOUNT OF PAYMENT

\$0.00

Application No. 10/637,608
Filing Date 11-Aug-03
Named Inventor FLYNN, et al.
Examiner Name LANGE, Wayne A
Art Unit 1754
Attorney Docket No. ENER-0001-4

FEE CALCULATION

1. Filing Fees

Application Type	Description	Large Entity		Small Entity		Paid
		Code	(\$)	Code	(\$)	
Utility	<input type="checkbox"/> Basic	1011	300	2011	150	\$ -
	<input type="checkbox"/> Examination	1311	200	2311	100	\$ -
	<input type="checkbox"/> Search	1111	500	2111	250	\$ -
Design	<input type="checkbox"/> Basic	1012	200	2012	100	\$ -
	<input type="checkbox"/> Examination	1312	130	2312	65	\$ -
	<input type="checkbox"/> Search	1112	100	2112	50	\$ -
Plant	<input type="checkbox"/> Basic	1013	200	2013	100	\$ -
	<input type="checkbox"/> Examination	1313	160	2313	80	\$ -
	<input type="checkbox"/> Search	1113	300	2113	150	\$ -
Reissue	<input type="checkbox"/> Basic	1014	300	2014	150	\$ -
	<input type="checkbox"/> Examination	1114	600	2114	300	\$ -
	<input type="checkbox"/> Search	1314	500	2314	250	\$ -
Provisional	<input type="checkbox"/> Basic	1005	200	2005	100	\$ -
National Stage	<input type="checkbox"/> Basic	1631	300	2631	150	\$ -
	<input type="checkbox"/> Examination	1633	200	2633	100	\$ -
	<input type="checkbox"/> Search	1632	500	2632	250	\$ -

2. Extra Claim Fee

a. Claims as Filed

	Large Entity		Small Entity		Paid
	Code	(\$)	Code	(\$)	
Total Claims	0	- 20 =	0	x	
Independent	0	- 3 =	0	x	
Multiple Dependent					
	1201	50	2201	25	\$ -
	1202	200	2202	100	\$ -
	1203	360	2203	180	\$ -

b. Claims as Amended

	Large Entity		Small Entity		Paid
	Code	(\$)	Code	(\$)	
Total Claims	25	- 25 =	0	x	
Independent	3	- 3 =	0	x	
First Presentation of Multiple Dependent					
	1201	50	2201	25	\$ -
	1202	200	2202	100	\$ -
	1203	360	2203	180	\$ -

3. Extra Page Fee

	Large Entity		Small Entity		Paid
	Code	(\$)	Code	(\$)	
Total Pages	0	-100	0	x	
	1081	250	2081	125	\$ -

Subtotal for Application Fees

1	\$ -	+	2	\$ -	+	3	\$ -	=	\$ -
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4. Additional Fees

Description	Large Entity		Small Entity		Paid
	Code	(\$)	Code	(\$)	
Extension for response first month	1251	120	2251	60	\$ 60
Extension for response second month	1252	450	2252	225	\$ -
Extension for response third month	1253	1,020	2253	510	\$ -
Extension for response fourth month	1254	1,590	2254	795	\$ -
Extension for response fifth month	1255	2,160	2255	1,080	\$ -
Notice of Appeal	1401	500	2401	250	\$ -
Filing a Brief in Support of an Appeal	1402	500	2402	250	\$ -
Request for Oral hearing	1403	1,000	2403	500	\$ -
Petitions under 1.17(f)	1462	400	2462	400	\$ -
Petitions under 1.17(g)	1463	200	2463	200	\$ -
Petitions under 1.17(h)	1464	130	2464	130	\$ -
Petition - public use proceeding	1451	1,510	2451	1,510	\$ -
Petition to Revive - Unavoidable	1452	500	2452	250	\$ -
Petition to Revive - Unintentional	1453	1,500	2453	750	\$ -
Utility Issue Fee	1501	1,400	2501	700	\$ -
Design Issue Fee	1502	800	2502	400	\$ -
Plant Issue Fee	1503	1,100	2503	550	\$ -
Reissue Issue Fee	1511	1,400	2511	700	\$ -
Publication Fee	1504	300	2504	300	\$ -
Statutory Disclaimer	1814	130	2814	65	\$ -

(cont.)

Description (cont.)	Large Entity		Small Entity		Paid
	Code	(\$)	Code	(\$)	
Recording each Assignment	8021	40	8021	40	\$ -
Submission of IDS	1806	180	1806	180	\$ -
Request for Cont. Examination (RCE)	1801	790	2801	395	\$ -
Filing Submission After Final	1809	790	2809	395	\$ -
Surcharge - late filing fee or oath	1051	130	2051	65	\$ -
Surcharge - late provisional fee	1052	50	2052	25	\$ -
Non-English Specification	1053	130	2053	130	\$ -
Processing Fee 37 CFR 1.17(q)	1807	50	2807	50	\$ -
Request for Ex Parte Reexamination	1812	2,520	2812	2,520	\$ -
Request Pub. of SIR prior to action	1804	920	2804	920	\$ -
Request Pub. of SIR after action	1805	1,840	2805	1,840	\$ -
Each Add. Invention Examined	1810	790	2810	395	\$ -
Expedited Examination (Design)	1802	900	2802	900	\$ -
Unintentionally Delayed Priority Claim	1453	1,370	2453	1,370	\$ -
Certificate of Correction	1811	100	2811	100	\$ -
Maintenance Fees 3.5 years	1551	900	2551	450	\$ -
Maintenance Fees 7.5 years	1552	2,300	2552	1,150	\$ -
Maintenance Fees 11.5 years	1553	3,800	2553	1,900	\$ -
Surcharge - Late Payment 6 mos.	1554	130	2554	65	\$ -
Other fee					\$ -

Additional Fee Subtotal 4

METHOD OF PAYMENT (Check all that apply)

☒ Credit Card (Provide credit card information and authorization on PTO-2038)

☒ Deposit Account No. 10-0233-ENER-0001-UT1

For the above-identified deposit account, the Director is hereby authorized to:

☐ To charge the above-identified fee.

☒ To charge any additional fees which may be required under 37 CFR 1.16, 1.17, 1.18, 1.20 and 1.492 or credit any overpayment to the deposit account number listed above.

Submitted by:

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September 7, 2006

Date

Include duplicate copy if paying by deposit account



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application No. : 10/637,608
Appellant/Applicant : FLYNN, *et al.*
Filed : AUGUST 11, 2003
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APPELLANTS' REPLY BRIEF UNDER 37 CFR 41.41

Sir:

Appellants/Applicants have received the Examiner's Answer mailed August 16, 2006, in response to Appellants' Brief for the above application. Pages 2-5 of Section 9 (Grounds of Rejection) of the Examiner's Answer have been previously addressed at pages 4-36 of Appellants' Appeal Brief. Appellants are submitting this Reply Brief in response to pages 5-7 of Section 10 (Response to Arguments) of the Examiner's Answer and to point out how the Examiner has failed to successfully rebut various arguments in Appellant's Appeal Brief. This Reply Brief is being timely filed, because it is being filed by the due date of October 16, 2006.

I. REAL PARTY IN INTEREST

The real party in interest is Enersol, Inc., the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are currently no appeals or interferences known to Applicants, Applicants' legal representative, or the assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 5-6, 12-14, 16, 19-20, 28-30, 32, 35-36, 42-44 are cancelled. Claims 15, 17-18, 21-27, 31, 33-34, 37-41, 54-58, 60 and 61 are withdrawn.

Claims 2-4, 7-11, 47-53 and 59 are currently pending and are the only rejected claims on appeal. Currently pending Claims 45 and 46 have been deemed to be allowable if rewritten in independent form. A clean copy of Claims 2-4, 7-11, 47-53 and 59 on appeal appears in the attached Claims Appendix.

IV. STATUS OF AMENDMENTS

No amendments have been filed since the Final Office Action of December 20, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' claimed invention relates to a hydrogen composition comprising: hydrogen and an odorant that is a selenium compound. The selenium odorant has a vapor pressure greater than 0.5 psi, has a smell detectable at less than 1 ppm by a human nose, and is in a vapor phase at a detectable concentration at a pressure of 6000 psi (see Claim 2, and the specification at paragraphs [0010] and [0066]*). Embodiments of Appellants' claimed invention include:

1. A hydrogen composition consisting essentially of hydrogen gas and the selenium odorant (see Claim 7, and the specification at paragraphs [0010] and [0066]).
2. The selenium odorant being from 0.01 to 1000 ppm of the composition (see Claim 8) with the odorant comprising 0.1 to 40 ppm of the composition (see Claim 9).
3. The selenium odorant not being harmful to humans (see Claim 10).

*For convenience, all paragraph references in the present Appeal Brief are to United States Published Patent

4. A hydrogen composition, wherein the selenium odorant has a minimum olfactory power of 7.0, a minimum vapor pressure of 0.5 psi at standard temperature and pressure, a minimum diffusivity of 0.01147 cm²/s, and a maximum molecular weight of 200 g/mol (see Claim 11).
5. The selenium compound being specifically ethylselenol (see Claim 3), dimethyl selenide (see Claim 4), methylselenol (see Claim 47), isopropylselenol (See Claim 48), propylselenol (see Claim 49), ethylmethylselenide (see Claim 50), isopropylmethylselenide (see Claim 51), tertbutylselenol (see Claim 52), or diethylselenide (see Claim 53). See also Table 11 of paragraph [0129] of the specification.
6. The selenium compound being in a vapor phase at a pressure greater than ambient pressure (see Claim 59).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There are currently four grounds of rejection for which review has been requested on this appeal. Appellants acknowledge, as indicated in Section (6) of the Examiner's Answer, that the rejection of Claim 59 under 35 U.S.C. § 112, first paragraph has been withdrawn. The remaining grounds of rejection are:

- A. The first ground of rejection is whether Claims 2-4, 7-11, 47-53 and 59 are unpatentable under 35 U.S.C. § 103(a) over French Patent 2,645,622 ("FR '622), in view of U.S. Patent No. 1,642,953 to Prentice ("Prentice");
- B. The second ground of rejection is whether Claims 2, 7-11 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view either U.S. Patent No. 5,221,545 to Borschel *et al.* ("Borschel") or U.S. Patent No. 4,496,639 to Rasmussen *et al.* ("Rasmussen").

C. The third ground of rejection is whether Claims 2, 3, 7-11, 47-49, 52 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view of U.S. Published Application No. 2002/0197304 A1 to Schrauzer ("Schrauzer").

D. The fourth ground of rejection is whether Claims 2, 4, 7-11, 50, 51, 53 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view of U.S. Patent No. 4,656,038 to Baugh ("Baugh").

VII. ARGUMENT

There are six issues discussed in pages 5-9 of Section 10 of the Examiner's Answer that necessitate an additional response by Appellants regarding the rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh. These issues relate to: (1) the Examiner's failure to provide a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2); (2) the rejection of Claims 2-4, 7-11, 47-53 and 59 being based on reasoning that directly and improperly contradicts the conclusions of the July 24, 2004 Restriction Requirement (Restriction Requirement); (3) the fact that the Examiner's Answer has still failed to properly make a *prima facie* case of obviousness; (4) the fact that, contrary to what the Examiner's Answer alleges, FR' 622 does not suggest that a non-sulfur containing compound may be used; (5) the fact that, contrary to what the Examiner's Answer alleges, the Final Office Action has not identified where FR '622 teaches or suggests the use of a single odorous product that does not contain sulfur; and (6) the fact that the Examiner's Answer, like the Final Office Action, fails to properly show how FR '622 would motivate someone of ordinary skill in the art to use selenium compounds. The arguments presented below are in addition to the arguments set forth in Appellants' Appeal Brief. In fact, Appellant believes that the Examiner has failed to rebut a single argument set forth in Appellants' Appeal Brief.

1. **The Examiner's failure to provide a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2)).**

In the second paragraph at page 5 of the Examiner's Answer, the Examiner argues

that he does not have to provide the Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) requested by Appellants, because the Examiner alleges that "there are no facts based on the examiner's personal knowledge which are used as a basis of the rejection." But to the contrary, in requesting that the Examiner provide an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) in their October 27, 2005 Amendment (October 2005 Amendment), the Appellants identified those facts within the Examiner's personal knowledge that have been used to reject Claims 2-4, 7-11, 47-53 and 59 in Section E of their October 2005 Amendment, as quoted below:

The Examiner has based all of his rejections of the claims on the following allegation that is unsupported by any factual evidence provided by the Examiner:

... FR '622 suggests in the Abstract that any odorous product may be added (See Office Action, p. 2, paragraphs 3 and 4, the paragraph bridging p.2 and p. 3, and p. 3, first full paragraph).

The Examiner alleges that:

In this case there are no facts based on the examiner's personal knowledge which are used as a basis for the rejection (See Office Action, p. 3)

However, the above allegation by the Examiner is simply untrue. As discussed above and repeatedly pointed out by Applicants during the prosecution of the present application, the Examiner continues to allege that FR '622 teaches non-sulfur odorant compounds while simultaneously failing to tell Applicants what non-sulfur odorant compounds are taught by FR '622. Every compound described in the Abstract of FR '622 is a sulfur compound.

The Examiner has also provided no factual support in FR '622 for the following allegation by the Examiner that has also been used as a basis for rejecting claims 2-4, 7-11 and 47-53:

Applicants' argument, that the Examiner has "admitted" that selenium compound are patentably distinct from sulfur compounds is not convincing, since the teachings of FR '622 are not limited to the use of sulfur compounds (see Office Action, p. 3).

Because the Examiner has provided Applicants with no factual support for the Examiner's allegations that FR '622 teaches and suggests [non-sulfur] compounds, Applicants can only presume that the Examiner knows of factual evidence in FR '622 that the Examiner, to date, has not provided to the

Applicants (see October 2005 Amendment, Section E, pp. 29-30).

In fact, the Examiner has also continued to argue that FR '622 teaches and/or suggests non-sulfur compounds, but has yet to identify a single non-sulfur compound that is taught in FR '622. In addition, in attempting, to justify the Examiner's failure to provide an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2), the Examiner's Answer mischaracterizes the rejections of Claims 2-4, 7-11, 47-53 and 59, as well as what is taught by FR '622, as shown by the following statement from the Examiner's Answer:

In this case there are no facts based on the examiner's personal knowledge which are used as a basis for rejection, since the rejections are based entirely on the prior art references which are public knowledge, and not "personal" knowledge. The prior art references speak for themselves. (Examiner's Answer, p. 5, emphasis added).

However, contrary to what is alleged in the Examiner's Answer, *FR '622 does not speak for itself in the rejections of Claims 2-4, 7-11, 47-53 and 59*. Instead, the Examiner speaks on behalf of FR '622. Speaking on behalf of FR '622, the Examiner alleges, based on facts known only to him, but not provided to Appellants, that FR '622, teaches and suggests *non-sulfur*-containing compounds. In fact, when FR '622 "speaks for itself," it only teaches particular types of *sulfur compounds*.

For at least the above reasons, Appellants' request for an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) was proper. Accordingly, the Examiner's refusal to provide this properly requested Affidavit/Declaration makes the rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh *prima facie* improper.

2. The rejection Claims 2-4, 7-11, 47-53 and 59 is based on reasoning that directly and improperly contradicts the conclusions of the Restriction Requirement.

The rejection of Claims 2-4, 7-11, 47-53 and 59 is based on reasoning that directly and improperly contradicts the conclusions of the Restriction Requirement that was issued by the Examiner. Nevertheless, the paragraph bridging pages 5 and 6 of the Examiner's

Answer makes the following allegations (referred to hereafter as Allegations 1 and 2) that: (a) mischaracterize what the Examiner stated in the Restriction Requirement; (b) mischaracterize what is disclosed in the FR '622 reference; (c) mischaracterize the Examiner's current positions in regard to selenium compounds being patentably distinct from sulfur compounds; and (d) attempt to support the rejections of Claims 2-4, 7-11, 47-53 and 59 based on reasoning that improperly contradicts the conclusions of the Restriction Requirement.

Allegation 1

The reasoning in the rejection is not inconsistent with the reasoning for the restriction requirement, since the restriction requirement was based on the premise that the various odorous gaseous are separate and distinct species, whereas the rejection is based on the premise that it would be obvious to utilize any known odorous gaseous product in the method of FR '622, since FR '622 discloses in the English Abstract that "an odorous gaseous product" is added (see Examiner's Answer, pp. 5-6).

Allegation 2

In any event, the examiner is not bound by positions taken in previous actions (see Examiner's Answer, p. 6).

Allegation 2 implies that the Examiner is not bound by the Examiner's conclusion in the Restriction Requirement that the claimed use of selenium compounds, methylamine or trimethylamine, oxygen compounds and nitrogen compounds in the present invention are *patentably distinct* from the use of sulfur compounds, (see Restriction Requirement, p. 4). Allegation 2 is erroneous for several reasons:

- a. The Examiner's position in the Restriction Requirement that *the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds* is not merely a position taken in a previous action. In fact, the Examiner has maintained the Restriction Requirement for over two years and continues to maintain the Restriction Requirement. In other words, the Examiner's position in the Restriction Requirement that the claimed use of the selenium compounds is *patentably distinct* from the use of the sulfur compounds *remains the Examiner's position*.
- b. The Examiner's conclusion in the Restriction Requirement that *the claimed*

use of the selenium compounds is patentably distinct from the use of sulfur compounds is evidence, so far unrebutted, that a person of at least ordinary skill in the art, *i.e.*, the Examiner, would consider the claimed use of the selenium compounds to be non-obvious over the claimed use of the sulfur compounds

- c. The Examiner has so far failed to provide any substantial evidence to rebut the conclusion he made in the Restriction Requirement, and that he continues to assert by maintaining the Restriction Requirement, that *the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds*. Also, the disclosure of FR '622, the primary reference that the Examiner has relied on in rejecting Claims 2-4, 7-11, 47-53 and 59, is entirely consistent with the Examiner's position that *the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds*. FR '622 only describes the use of sulfur compounds as odorants and does not teach or suggest the use of selenium compounds as odorants.

Allegation 1 also mischaracterizes what is disclosed in FR '622 by only quoting selectively from FR '622. FR '622 does not merely say that "an odorous gaseous is added," but instead that "an odorous gaseous is added *such as a mercaptan, a thiophane, or product known under the name 'TBM'*" (FR '622 English Abstract, emphasis added). Contrary to the implied mischaracterization of FR '622 in Allegation 1, FR '622 *only describes the use of three types of sulfur compounds*.

As discussed above, in the Restriction Requirement, the Examiner concluded that the claimed use of the selenium compounds was *patentably distinct* from the use of sulfur compounds. In rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622, the Examiner now argues that FR '622, a reference that *only describes the use of three types of sulfur compounds, would make it obvious to use the selenium compounds*. Contrary to what is stated or implied in Allegation 1, the reasoning in the rejections of Claims 2-4, 7-11, 47-53 and 59 over FR '622 directly and improperly contradicts the Examiner's conclusion in the Restriction Requirement.

3. The Examiner's Answer still fails to properly make a *prima facie* case of obviousness.

The Examiner makes the following unsupported allegation (hereafter referred to as Allegation 3) in the first full paragraph of page 6 of the Examiner's Answer:

Allegation 3

Appellants' argument that the rejection of claims 2-4, 7-11, 47-53 and 59 are based on the improper grounds that the examiner believes that he can reject claims under 35 USC 103 without making a *prima facie* case of obviousness, is not convincing since a *prima facie* case of obviousness has been made. The burden is on appellants to rebut such *prima facie* case.

But contrary to Allegation 3, in the Appellants' Appeal Brief, Appellants provided numerous reasons why the Examiner has failed to make a *prima facie* case of obviousness, none of which have been successfully rebutted by the Examiner's Answer:

- a. The Examiner has failed to comply with 37 CFR § 104(d)(2) (see Appeal Brief, Argument, A(1), p. 5).
- b. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on reasoning that directly contradicts the conclusions of the Restriction Requirement (see Appeal Brief, Argument, A(2), pp. 5-7).
- c. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on reasoning that contradicts the conclusions reached in the Non-Elected Invention Determination of the Final Office Action (see Appeal Brief, Argument, A(3), pp. 7-8).
- d. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on a mischaracterization the Appellants arguments during prosecution of the present application (see Appeal Brief, Argument, A(5), pp. 9-10).
- e. The rejections of 2-4, 7-11, 47-53 and 59 are based on a mischaracterization of what FR' 622 teaches and suggests (see Appeal Brief, Argument, A(6), pp. 10-11).
- f. The failure of the Final Office Action to comply with 37 CFR § 1.104(c)(2) (see Appeal Brief, Argument, A(7), p. 11).

- g. The rejection of Claims 2-4, 7-11, 47-53 and 59 over the combination of Prentice with FR '622 is *prima facie* improper because the Final Office Action has provided no proper motivation for combining Prentice with FR '622 (see Appeal Brief, Argument, B(2), pp. 15-18).
- h. The rejection of Claims 2, 7-11 and 59 over the combination of Borschel or Rasmussen with FR '622 is *prima facie* improper because the Final Office Action has provided no proper motivation for combining Borschel or Rasmussen with FR '622 (see Appeal Brief, Argument, C(2), pp. 22-24).
- i. The rejection of Claims 2, 3, 7-11, 47-49, 52 and 59 over the combination of Schrauzer with FR '622 is *prima facie* improper because the Final Office Action has provided no proper motivation for combining Schrauzer with FR '622 (see Appeal Brief, Argument, D(2), pp. 28-30).
- j. The rejection of Claims 2, 4, 7-11, 50, 51, 53 and 59 over the combination of Baugh with FR '622 is *prima facie* improper because the Final Office Action has provided no proper motivation for combining Baugh with FR '622 (see Appeal Brief, Argument, E(2), pp. 33-35).

For at least the reasons discussed above in the Appellants' Appeal Brief, and contrary to what is alleged in the Examiner's Answer, the Examiner has failed to properly make a *prima facie* case of obviousness with respect to any of the rejections over FR '622.

4. **Contrary to what the Examiner's Answer alleges, FR' 622 does not suggest that a non-sulfur containing compound may be used.**

The following unsupported allegations (referred to hereafter as Allegations 4, 5 and 6) in the second full paragraph of page 6 of the Examiner's Answer mischaracterize what is disclosed in FR '622 and improperly argue that other references may be combined with FR '622 based on an "obvious to try" standard:

Allegation 4

FR' 622 discloses in the Abstract that "an odorous gaseous product is added.

Allegation 5

One of ordinary skill in the art could determine through routine experimentation which odorous gaseous products would function in the process of FR '622.

Allegation 6

The fact that certain odorous gaseous products would be impractical in the method of FR '622 does not render nugatory the fact that many would not be impractical, and it would be within the ordinary skill in the art to determine which gases would function in the process.

Allegation 4 mischaracterizes what is disclosed in FR '622 by only quoting selectively from FR '622. FR '622 does not merely say that "an odorous gaseous is added," but instead that "an odorous gaseous is added *such as a mercaptan, a thiophane, or product known under the name 'TBM'*" (FR '622 English Abstract, emphasis added).

Allegation 5 is unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 4; or (b) the Board conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 are *prima facie* improper, because they are based on factually unsupported reasoning.

Like Allegation 5, Allegation 6 is also unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 5; or (b) the Board conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 are *prima facie* improper, because they are based on factually unsupported reasoning.

In Allegations 5 and 6, the Examiner has also not identified any criteria set forth in FR '622 or any other reference that could be used by a person of ordinary skill in the art to determine which gaseous products could be used in placed of the sulfur compounds of FR '622. Although not specifically researched, Appellants reasonably believe there may be

tens of thousands, if not hundreds of thousands, of odorous gaseous compounds *i.e.*, gaseous compounds that have an odor, including the highly toxic compounds described in Appellants' Appeal Brief (see Appeal Brief, pp. 10-11). In fact, any mixture, in any proportion, of an odorous gaseous compound with one or more gaseous compounds, either odorous or odorless, would also provide an "odorous gaseous product." Therefore, there are an infinite number of gaseous products that would qualify as an "odorous gaseous product." In other words, Allegations 5 and 6 from the Examiner's Answer make the absurd argument that a person of ordinary skill in the art would be able to determine through "routine experimentation" which of *an infinite number of odorous gaseous products* could be used in place of the sulfur compounds of FR '622.

In essence, the Examiner's Answer argues in Allegations 4, 5 and 6 above that it be "obvious to try" any of any infinite number of odorous gaseous products in place of the sulfur compounds of FR '622. But as stated in *In re Deuel*, 34 USPQ2d 1210, 1216 (Fed. Cir. 1995), "'Obvious to try' has long been held not to constitute obviousness. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988)." Therefore, Allegations 4, 5 and 6 in the Examiner's Answer rely on reasoning in rejecting Claims 2-4, 7-11, 47-53 and 59 that is *prima facie* improper.

5. **Contrary to what the Examiner's Answer alleges, the Final Office Action has not identified where FR '622 teaches or suggests the use of a single odorous product that does not contain sulfur.**

The following unsupported allegation (referred to hereafter as Allegation 7) in the paragraph bridging pages 6-7 of the Examiner's Answer also mischaracterizes what is disclosed in FR '622 and is also inconsistent with the Examiner's conclusion in the Restriction Requirement:

Allegation 7

FR' 622 discloses in the English Abstract that "an odorous product is added, "such as" a mercaptan, a thiophane, or a product known under the name "TBM". Since the reference uses the phrase "such as" a mercaptan . . . it is clear that the reference contemplates other odorous gaseous products, which would include the selenium compounds recited in appellants claims.

Allegation 7 mischaracterizes what is disclosed in FR '622 by putting too great an emphasis on the use of the words "such as" while ignoring the fact that: (a) the phrase "such as" is used in a listing that only includes sulfur compounds; (b) only sulfur compounds are described in FR '622; and (c) the Examiner has already admitted in the Restriction Requirement that *selenium compounds are patentably distinct from sulfur compounds*.

In fact, to date, the Examiner has failed to identify a single non-sulfur-containing compound in FR '622, despite the Appellants Request in their October 2005 Amendment that the Examiner provide an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) identifying non-sulfur containing compounds in FR '622 (see October Amendment, Section E, pp. 29-30). In addition, the Examiner, a person of at least ordinarily skill in the art, has concluded in the Restriction Requirement that selenium compounds are *patentably distinct* from sulfur compounds (see Restriction Requirement, p. 4). No evidence so far provided by the Examiner has rebutted his conclusion in the Restriction Requirement. In fact, FR '622, by only describing the use of sulfur compounds, actually supports the Examiner's conclusion in the Restriction Requirement that selenium compounds, as well as other types of odorous compounds, are *patentably distinct* from odorous sulfur compounds. Therefore, contrary to what the Examiner's Answer alleges, FR' 622 does not teach or suggest the use of selenium compounds, or provide motivation to one of ordinary skill in the art to consider references describing sulfur compounds only as being relevant to the claimed use of selenium compounds.

6. **The Examiner's Answer, like the Final Office Action, fails to properly show how FR '622 would motivate someone of ordinary skill in the art to use selenium compounds.**

The following unsupported allegation (referred to hereafter as Allegation 8) in the first full paragraph of page 7 of the Examiner's Answer mischaracterizes what is disclosed in FR '622, is also inconsistent with the Examiner's conclusion in the Restriction Requirement, and improperly argues that references may be combined with FR '622 based on an "obvious to try" standard:

Allegation 8

One of ordinary skill in the art would be motivated to employ such odorous selenium compounds in the process of FR '622, since it would be within the skill of one of ordinary skill in the art to determine which odorous compounds would function in the process of FR '622, and, since FR '622 is not limited to the use of sulfur compounds, in view of the phrase "such as" in the English Abstract.

Contrary to Allegation 8, a person of ordinary skill in the art would not be motivated by FR '622 to use selenium compounds. As discussed above regarding Allegation 7, the Examiner, a person of at least ordinary skill in the art, concluded in the Restriction Requirement that selenium compounds are *patentably distinct* from sulfur compounds (see Restriction Requirement, p. 4). To date, the Examiner has provided no evidence that rebuts this conclusion.

In fact, the level of skill of one of ordinary skill in the art suggested by Allegation 8 in determining compounds that would function in the process of FR '622 is unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 8; or (b) that the Board conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 is *prima facie* improper, because they are based on factually unsupported reasoning.

In addition, as discussed in Section (4) above, the Examiner's Answer still has not identified any criteria set forth in FR '622 or any other reference that could be used by a person of ordinary skill in the art to determine which gaseous products could be used in place of the sulfur compounds of FR '622. Put differently, there are an infinite number of gaseous products that would qualify as "an odorous gaseous product." This means that Allegation 8 from the Examiner's Answer makes the absurd argument that a person of ordinary skill in the art would be able to determine through "routine experimentation" which of *an infinite number of odorous gaseous products* could be used in place of the sulfur compounds of FR '622. Allegation 8 also relies on improper "obvious to try" reasoning (see cases cited in Section (4) above).

Furthermore, as discussed in Section (5) Allegation 8 mischaracterizes what is disclosed in FR '622 by putting too great an emphasis on the use of the words "such as" while ignoring the fact that: (a) the phrase "such as" is used in a listing that only includes sulfur compounds; (b) only sulfur compounds are described in FR '622, and (3) the Examiner has already characterized in the Restriction Requirement that selenium compounds are patentably distinct from sulfur compounds. In fact, FR '622, by only describing the use of sulfur compounds, actually supports the Examiner's original conclusion in the Restriction Requirement that selenium compounds, as well as other types of odorous compounds, are *patentably distinct* from odorous sulfur compounds. Therefore, and contrary to what the Examiner's Answer alleges, FR' 622 does not teach or suggest the use of selenium compounds, or provide motivation to one of ordinary skill in the art to look for references describing sulfur compounds only as being relevant to the claimed use of selenium compounds.

CONCLUSIONS AND RELIEF REQUESTED

Based on the arguments presented in Appellants Brief and in this Reply Brief, it is respectfully submitted that the compositions of Claims 2-4, 7-11, 47-53 and 59 were improperly rejected as obvious over the combined prior art relied on by the Final Office Action and the Examiner's Answer. Accordingly, Appellants respectfully request the Honorable Board of Appeals and Interferences to reverse the Examiner's rejections in the Final Office Action and remand with directions to allow the above application to issue with Claims 2-4, 7-11, 47-53 and 59 currently pending.

Respectfully submitted,



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VIII. CLAIM APPENDIX

2. A hydrogen composition comprising: hydrogen; and an odorant, said odorant having a vapor pressure greater than 0.5 psi and having a smell detectable at less than 1 ppm by a human nose, wherein said odorant is a selenium compound.
3. The composition of claim 2, wherein said selenium compound is ethylselenol.
4. The composition of claim 2, wherein said selenium compound is dimethyl selenide.
7. The composition of claim 2, wherein said gaseous composition consists essentially of hydrogen gas and said odorant.
8. The composition of claim 2, wherein said odorant comprises 0.01 to 1000 ppm of said composition.
9. The composition of claim 2, wherein said odorant comprises 0.1 to 40 ppm of said composition.
10. The composition of claim 2, wherein said odorant is not harmful to humans.
11. The composition of claim 7, wherein said odorant has a minimum olfactory power of 7.0, a minimum vapor pressure of 0.5 psi at standard temperature and pressure, a minimum diffusivity of 0.01147 cm²/s, and a maximum molecular weight of 200 g/mol.
47. The composition of claim 2, wherein said selenium compound is methylselenol.
48. The composition of claim 2, wherein said selenium compound is isopropylselenol.

49. The composition of claim 2, wherein said selenium compound is propylselenol.

50. The composition of claim 2, wherein said selenium compound is ethylmethylselenide.

51. The composition of claim 2, wherein said selenium compound is isopropylmethylselenide.

52. The composition of claim 2, wherein said selenium compound is tertbutylselenol.

53. The composition of claim 2, wherein said selenium compound is diethylselenide.

59. The composition of claim 2, wherein said odorant is in a vapor phase at a pressure greater than ambient pressure.

IX. EVIDENCE APPENDIX

There is no evidence of record other than the references cited by the Examiner during the prosecution of the present application.

X. RELATED PROCEEDINGS APPENDIX

There have been no decisions rendered by a court or the Board in any proceedings related to this appeal.